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MICHOACAN: mountains near Patzcuaro, *Pringle*, nos. 4099, 4264 (both in hb. Gr.).

EXCLUDED SPECIES.

S. OCCIDENTALIS, DC. Prodr. v. 497 (1836), is a clerical error for *Siegesbeckia occidentalis*, Walt. (not L.), *i. e.* *Verbesina occidentalis*, Walt. Fl. Car. 213.

S. GLABRA, Wats. Proc. Am. Acad. xxiii. 277 (1888), is *Jaegeria petiolaris*, Robinson, Proc. Am. Acad. xxxv. 316 (1900).

S. PORTORICENSIS, DC. Prodr. v. 497 (1836), is a clerical error for *Siegesbeckia portoricensis*, Bert.

S. SUBNUDA, Robinson & Seaton, Proc. Am. Acad. xxviii. 108 (1893), is unquestionably the long unidentified *Selloa plantaginea*, HBK. Nov. Gen. et Spec. iv. 266, t. 394 (1820). The genus *Selloa* appears from this new material to be very close to *Sabazia*, but it may be distinguished by its filiform chaff and acaulescent habit, as well as by the presence of a pappus of 2 to 6 filiform awns so caducous as to have escaped detection in the original examination of Mr. Pringle's plant.

II. REVISION OF THE MEXICAN AND CENTRAL AMERICAN SPECIES OF *TRIXIS*.

B. L. ROBINSON AND J. M. GREENMAN.

TRIXIS, P. BROWNE. (Name from *τριξός*, threefold, from the three-cleft corollas.) The Mexican and Central American species are shrubs (except *T. michuacana*) with alternate to ovate-oblong rarely linear entire or dentate pinnately veined leaves and loosely paniculate to densely corymbose rarely thyrsoïd or subsolitary heads; involucre mostly double, of 1 to 5 unequal linear to ovate more or less foliaceous outer

disk-flowers are said to be 4-toothed, while they are 5-toothed in the *Sabazia*; the leaves are described as linear-lanceolate, although in the *Sabazia* they are ovate or ovate-lanceolate; the rays are said to be numerous and capillary, a mode of description which surely no one would apply to the some ten flat elliptic-oblong conspicuously toothed rays of the *Sabazia*; the involucre is said to be equal, while in the *Sabazia* the scales are very unequal. It seems to us much more likely that Baillon was right in referring *Abasoloea* to *Eclipta* with which in essentials the description corresponds far better. It should be remarked that Pringle's no. 4921 has on re-examination proved to be *Sabazia Liebmannii*, Klatt.

bracts and 5 to 10 equal erect linear-oblong scales: corollas yellow, strongly bilabiate, the upper erect lip 2-cleft, the lower spreading, 3-toothed or subentire: anthers sagittate and bicaudate at the base: achenes cylindrical or slightly flask-shaped, slender, finely papillose, the summit more or less expanded into a circular disk bearing copious simple roughish white or tawny pappus-bristles. — Hist. Jamaic. 312 (1756); Lag. Amen. Nat. i. 35; La Llav. & Lex. Nov. Veg. Desc. fasc. 1, 27; Spreng. Syst. iii. 501; D. Don, Trans. Linn. Soc. xvi. 186, 297; DC. Prodr. vii. pt. 1, 67; Benth. & Hook. f. Gen. ii. 501; Hemsl. Biol. Cent.-Am. Bot. ii. 257; Hoffm. in Engl. & Prantl, Nat. Pflanzenf. iv. Abt. 5, 350; Hook. f. & Jacks. Ind. Kew. ii. 1130, which see for generic synonymy. *Perdicium*, L. Pl. Afr. Rar. 22 (1762), in part. About 35 species, ranging from Arizona to Brazil and Chili.

§ 1. Inflorescence an elongated conical thyrsus: herbaceous.

1. *T. michuacana*, LA LLAV. & LEX. Viscid-resinous and with a heavy odor; root fibrous, yellowish; stem simple, tomentose, 1 dm. high, erect: leaves sessile, punctate, villous below, the floral gradually reduced: heads borne in a large conic-oblong thyrsus; outer bracts of the involucre 5, ample, ovate, the inner involucre prismatic, of 8 erect scales. — Nov. Veg. Desc. fasc. 1, 28 (1824); DC. Prodr. vii. pt. 1, 68; Hemsl. Biol. Cent.-Am. Bot. ii. 258. — MICHUACAN: near Vallisotletum, flowering in January, *Lexarza*. If the above (compiled) description is correct, this is a marked species, not yet rediscovered.

§ 2. Inflorescence corymbose-paniculate: shrubs or undershrubs.

* Leaves sessile by a clasping shortly decurrent base.

2. *T. decurrens*, DC. Stems several, sparingly branched toward the summit: leaves crowded, ovate-lanceolate, acutely acuminate, entire: heads terminal, subsolitary; outer involucre of 5 ovate-lanceolate bracts, the inner of 8 scales: corollas yellow. — Prodr. vii. pt. 1, 68 (1838), whence the foregoing description; Hemsl. Biol. Cent.-Am. Bot. ii. 258; A. DC. Calques des Dess. t. 515. *Perdicium decurrens*, Sessé & Mociño, acc. to DC. l. c. (1838), & Pl. Nov. Hisp. ed. 2, 130. — MORELOS: Ayacapixtla, flowering in November, *Sessé & Mociño*.

* * Stem provided at least at some stages of its development with broad and conspicuous herbaceous wings.

+ Outer bracts of the involucre lanceolate, much shorter than the inner; the latter glandular.

3. *T. mexicana*, LA LLAV. & LEX. A meter or more high: leaves lanceolate, 5 to 13 cm. long, 1 to 4 cm. broad, acuminate, acute, entire

or denticulate, narrowed below to a somewhat petiole-like base, decurrent upon the stem, sparingly pubescent above, tomentulose and glandular-atomiferous beneath, at length somewhat glabrate: inflorescence loose; heads 2 cm. high, about 20-flowered. — Nov. Veg. Desc. fasc. 1, 27 (1824), not Sessé & Mociño. — MICHOACAN: near Vallisoletum, flowering in October and November, *Lexarza*. GUERRERO: vicinity of Acapulco, *Palmer*, no. 144 (hb. Gr.).

+ + Outer bracts of the involucre elliptical or spatulate, two-thirds as long as the inner; the latter glandless.

4. *T. pterocaulis*, n. sp. Stems much branched; ultimate branchlets subappressed-pubescent: leaves thin, ovate to ovate-lanceolate, 3 to 10 cm. long, 1.5 to 4 cm. broad, acute, mucronate, entire or denticulate, sessile and decurrent upon the stem or narrowed to a short petiole-like base, glabrous or nearly so above, sparingly pubescent beneath: inflorescence loose and comparatively few-headed; heads 1.7 to 2 cm. high, 12–14-flowered; bracts of the proper (inner) involucre 8, linear-oblong, obtusish or abruptly pointed at the tip, appressed-pubescent. — COLIMA: Manzanillo, December, 1890, *Palmer*, no. 897 (hb. Gr.).

+ + + Outer bracts of the involucre 5, very large, ovate-lanceolate, copiously glandular.

5. *T. alata*, D. DON. Stems erect, rigid, branching; branches terete, foliaceous-winged: leaves oblong-ovate, 5 to 8 cm. long, 2.5 to 4 cm. broad, acute, mucronate, denticulate, papillose-setose on both surfaces: bracts of the outer involucre 2.5 to 4 cm. long, about 12 mm. broad, longer than the proper involucre: heads 24-flowered. — Trans. Linn. Soc. xvi. 192; DC. Prodr. vii. pt. 1, 68; Hemsl. Biol. Cent.-Am. Bot. ii. 258. — MEXICO: without locality, *Sessé & Mociño*.

* * * Leaves subsessile or narrowed to a shortly petioled base: stem wingless (sometimes very narrowly and inconspicuously winged in *T. rugulosa*).

+ Bracts of the outer involucre 5, large, foliaceous, ovate, usually exceeding the inner.

6. *T. longifolia*, D. DON. Stems erect, leafy; branches striate, subappressed tawny-pubescent: leaves crowded, sessile or subsessile, lanceolate, 3 to 8 cm. long, 1 to 2 cm. broad, acute or acuminate, entire to shallowly dentate, sparingly pubescent above, more or less appressed-villose beneath, somewhat glabrate, usually conduplicate: inflorescence dense, many-headed, conspicuously glandular; heads large, 2 to 2.5 cm. high, 18–20-flowered. — Trans. Linn. Soc. xvi. 191 (1838); DC. Prodr.

vii. pt. 1, 68; Hemsl. Biol. Cent.-Am. Bot. ii. 258. *T. obvallata*, Hook. & Arn. Bot. Beech. Voy. 300, t. 65 (1840); Walp. Rep. ii. 682; Seem. Bot. Herald. 314; Rose, Contr. U. S. Nat. Herb. i. 106, 338. *T. conferta*, Benth. Pl. Hartw. 289 (1848); Walp. Ann. ii. 950. *Perdicium longifolium*, Sessé and Mociño, acc. to Don, l. c. — MEXICO: without special locality, *Sessé & Mociño*; between San Luis Potosi and Tampico, *Palmer*, no. 1121 (coll. of 1878-1879); Sierra Madre, northwest Mexico, *Seemann* (hb. Gr.). SONORA: Alamos, *Palmer*, no. 290 (hb. Gr.). GUANAJAUTO: Guanajauto, *Berlandier*, no. 1327 (hb. Gr.); Leon and Guanajuato, *Hartweg*, no. 1609 (hb. Kew, acc. to Hemsl., l. c.). JALISCO: hills near Guadalajara, *Pringle*, nos. 2173, 2431 (both in hb. Gr.); *Dugès*, MM. (hb. Gr.). COLIMA: *Palmer*, no. 1235 (hb. Gr.). GUERRERO: Acapulco, *Hinds*.

Var. sericea, n. var. Stem 6 to 9 dm. high: upper leaves (the only ones shown in the specimen at hand) densely and permanently silvery-sericeous beneath. — ? *T. involucrata*, Don. Trans. Linn. Soc. xvi. 193 (1838). — HIDALGO: hills near Tula, alt. 2300 m., *Pringle*, no. 8051 (hb. Gr.).

Var. platyphylla, n. var. Leaves large, obovate, flat, entire or nearly so, sparingly soft-pubescent beneath, 1 dm. long, 3.5 to 4 cm. broad, sharply acuminate: inflorescence more open than in either of the other forms; the bracts subtending its branches ovate, glanduliferous. — GUERRERO: near Acapulco, *Palmer*, no. 522, October, 1894 to March, 1895 (hb. Gr.).

+ + Outer bracts of the involucre linear to narrowly ovate, mostly much shorter than the inner.

+ + Inner bracts of the involucre 5; flowers 5 to 7.

7. T. oligantha, n. sp. Shrub; stems covered with a brown or grayish brown bark, at first pubescent, later glabrate: leaves lanceolate, 3 to 9 cm. long, 7 to 25 mm. broad, acuminate, mucronately acute, entire or mucronulate-denticulate, narrowed below into a subpetiolate base, at first pubescent above, later more or less glabrate, appressed-sericeous-tomentose beneath: heads 12 to 18 mm. high, 5-7-flowered, disposed in rather close clusters borne in a corymbose panicle; outer bracts of the involucre lanceolate or lance-ovate, sometimes nearly or quite equalling the lance-linear acuminate appressed-pubescent inner scales, the latter 10 to 12 mm. long. — OAXACA: Monte Alban, 27 November, 1894, *Pringle*, no. 5826; Cerro de San Felipe, alt. 1700 m., 29 March, 1896, *Conzatti & González*, no. 70.

↔ ↔ Inner bracts of the involucre 8; flowers 10 to 25.

= Leaves strongly discoloured, silvery-sericeous beneath.

8. *T. hyposericea*, WATS. Slender branching shrub with smooth light brown terete branchlets and narrowly lanceolate entire attenuate-acuminate willow-like leaves 4 to 6 cm. long, 6 mm. broad, green, slightly rugose, and inconspicuously villous above, white and silky-villous beneath: pedicels slender, finely appressed-pubescent; heads small, 1.4 cm. long; outer involucre bracts small, lanceolate, green, 3 to 4 mm. long, the inner about 1 cm. long. — Proc. Am. Acad. xxv. 157 (1890). — JALISCO: in a barranca near Guadalajara, *Pringle*, no. 1741 (hb. Gr.).

9. *T. Pringlei*, n. sp. Shrub; stems below covered with a light gray cortex, glabrous; branchlets subappressed-tomentulose and sericeous: leaves lanceolate, 3 to 7 cm. long, 6 to 12 mm. broad, acuminate, acute, entire, revolute-margined, narrowed below into a subpetiolate base, subhirtellous above, silvery-tomentose and sericeous beneath: inflorescence loose; heads 15 to 18 mm. high, 12–15-flowered; inner scales of the involucre about 1 cm. in length and as well as the outer glandular-puberulent. — OAXACA: Tomellin Cañon, alt. 925 m., 22 December, 1894, *Pringle*, no. 5894 (hb. Gr.).

10. *T. Haenkei*, SCH. BIP. Shrub; stems covered with a brown cortex, at first sericeous-tomentose, later glabrate: leaves lanceolate to lance-oblong, 3 to 12 cm. long, 1 to 3.5 cm. broad, acuminate, acute, entire or denticulate, subsessile or narrowed at the base to a short petiole (8 mm. or less in length), at first pubescent above but soon glabrate, silky-tomentose beneath: inflorescence dense; heads 1.5 to 2 cm. high, 12–14-flowered; inner bracts of the involucre 8, about 14 mm. in length, appressed-pubescent often with gland-tipped hairs intermixed, usually longer than the outer bracts. — Sch. Bip. in Seem. Bot. Herald, 314 (1852–57); Hemsl. Biol. Cent.-Am. Bot. ii. 258; Mueller, Ann. v. 314. *T. angustifolia*, Vasey & Rose, Contr. U. S. Nat. Herb. i. 73 (1790), not DC. — MEXICO: without locality, *Liebmann*, no. 404 (fragment and tracing in hb. Gr.); in the Sierra Nevada of northwestern Mexico, *Seemann* (hb. Gr.). JALISCO: roadside between Mascota and San Sebastian, *Nelson*, no. 4068. LOWER CALIFORNIA, La Paz, *Palmer*, no. 7 (coll. of 1890).

= = Leaves tomentulose beneath.

11. *T. rugulosa*, n. sp. Shrub, 10 to 16 dm. high; branches light brown, sometimes inconspicuously winged, the wings narrow, scarcely herbaceous, decurrent in pairs from the base of the petiole: leaves

lanceolate, 3 to 8 cm. long, 7 to 17 mm. broad, acuminate, acute, entire, narrowed at the base, dark green, sparingly pubescent and rugose above, paler and finely tomentose beneath: inflorescence an open flat-topped panicle; pedicels appressed-pubescent; bracts of the outer involucre 7 to 8 mm. long, the inner narrowly oblong, obtusish, 10 to 12 mm. long; heads 1.5 to 2 cm. high, about 18-flowered. MEXICO: without locality, *Gregg*, no. 840 (hb. Gr.). GUANAJUATO: alt. 2100 m., *C. C. Deam*, no. 175 (hb. Gr.). QUERETARO: in the plains near the city, *Berlandier*, no. 1292 (hb. Gr.); between Queretaro and Mexico, *Berlandier*, no. 1228 (hb. Gr.).

12. *T. angustifolia*, DC. Shrub, about 1 m. high, fasciculately branched, grayish green: leaves linear or lance-linear, attenuate at each end, 3 to rarely 9 cm. long, usually about 4 (rarely as much as 15) mm. broad, hirsute-tomentose beneath, mostly erect or appressed, the uppermost shorter but otherwise similar; margins strongly revolute: heads about 2 cm. long, subsolitary or aggregated into fascicles; scales of the inner involucre 8, lance-linear, attenuate. — Prodr. vii. pt. 1, 69 (1838); Hemsl. l. c. 258; Gray, Syn. Fl. i. pt. 2, 409, in part. *T. rosmarinifolia*, Nees, Linnaea, xx. 699 (1847); Walp. Ann. i. 460. — MEXICO: without further locality, *Gregg*, no. 566; in the Sierra Nevada of north-west Mexico, *Seemann*, no. 2046 (hb. Gr.). DURANGO: shady hillsides near the city, alt. 1850 m., *Palmer*, no. 30, *Nelson*, no. 4599. ZACATECAS: hills about the city, *Pringle*, no. 180. SAN LUIS POTOSI: *Berlandier*, nos. 1284, 1353 (both in hb. Gr.), alt. 1800 to 2500 m., *Parry & Palmer*, no. 549 (hb. Gr.), *Schaffner*, no. 285 (hb. Gr.); Penasco, *C. & E. Seler*, no. 1138.

= = = Leaves glandular-dotted beneath.

13. *T. californica*, KELLOGG. A much branched shrub, 0.3 to 1 m. or more in height; branches and branchlets appressed-puberulent, glabrate: leaves lanceolate, 2.5 to 10 cm. long, 0.5 to 2 cm. broad, acute or acuminate, entire or mucronulate-dentate, sessile or narrowed below to a subpetiolate base, sparingly appressed-puberulent on both surfaces to nearly or quite glabrous, densely glandular-atomiferous beneath, usually pale green: heads 1.5 to 2 cm. high, commonly 12-14-flowered; inner involucre scales 8 to 10 in number, 10 to 15 mm. in length, thickened and somewhat obtusely keeled at the base, slightly exceeding the lance-linear to subobovate outer bracts, glandular-pubescent with a few subappressed non-glandular hairs intermixed. — Proc. Calif. Acad. ii. 182, fig. 53 (1862). *T. suffruticosa*, Wats. Bot. Calif. ii. 459 (1880).

T. angustifolia, Gray, Pl. Wright, i. 128 (1852), & ii. 102 (as to nos. 413 & 1299), also Syn. Fl. i. pt. 2, 409, in part, not DC. *T. angustifolia*, var. *latiuscula*, Gray, l. c. 410. *T. frutescens*, Gray, Bot. Mex. Bound. 103 (1859), vars.; not Sch. Bip. in Seem. Bot. Herald, 314; not P. Browne. — CALIFORNIA: San Diego County, Tantillas Cañon, Palmer (coll. of 1875); Colorado Desert, Lemmon & Parry, no. 1185, Wright, no. 196; Agua Caliente, Parish, no. 353 (hb. Gr.). LOWER CALIFORNIA: Cedros Island, Veatch, Greene (hb. Gr.), Palmer, no. 694 (hb. Gr.), Anthony, nos. 49, 318 (both in hb. Gr.); Island of San Pedro Martin, Palmer, no. 408 (hb. Gr.); Magdalena Island, Brandege (hb. Gr.); Cañons Cantillas, Orcutt, no. 1102. ARIZONA: rocky cañons of the Santa Catalina Mountains, Pringle (hb. Gr.); Camp Grant, Palmer, no. 143 (hb. Gr.); Tempe, Ganong & Blaschka (hb. Gr.); without locality, Lemmon (hb. Gr.); Tucson, Greene, no. 1099 (hb. Gr.); Grand Cañon, Gray (hb. Gr.). NEW MEXICO: Manyos Cañon, Greene, no. 101 (hb. Gr.); Bear Mountains, Rusby, no. 203 (hb. Gr.); Organ Mountains, Wooton, no. 107 (hb. Gr.). TEXAS: western part, Havard, no. 74 (hb. Gr.). SONORA: ravines near Santa Cruz, Wright, no. 1299 (hb. Gr.). CHIHUAHUA: among rocks, Bachimba, Thurber, no. 830 (hb. Gr.); hills near the city, Pringle, no. 30 (hb. Gr.); Santa Eulalia Mountains, Pringle, no. 525 (hb. Gr.); near Lake Santa Maria, Nelson, no. 6407 (hb. Gr.). COAHUILA: Soledad, Palmer, no. 2089 (hb. Gr.); Parras, Palmer, no. 745 (hb. Gr.); Torreon, Palmer, no. 786 (hb. Gr.). SAN LUIS POTOSI: near Opito, Gregg (hb. Gr.).

14. *T. silvatica*, n. sp. Branching shrub with light brown branchlets; cortex tending to exfoliate: leaves thin, ovate-oblong, acuminate, cuneate at the sessile base, sharply but rather finely dentate, green, slightly pubescent and obscurely glandular above, scarcely paler, finely pubescent and distinctly glandular-atomiferous beneath, 5 to 8 cm. long, 2 to 3 cm. broad: heads few or many at the ends of the branches in rounded corymbose panicles, about 12-flowered, 2 cm. long in fruit; outer involucre bracts thin, lanceolate or oblanceolate, acuminate, glandular-atomiferous, 12 to 15 mm. long, 3 to 5 mm. broad, the inner 8, linear, short-acuminate, about 12 mm. long, glandular-pubescent: mature achenes 7 to 9 mm. long; pappus slightly tawny, about 8 mm. long. — OAXACA: in dry wooded gorges on the River Tehuantepec, C. & E. Seler, no. 1633 (hb. Gr.); without locality, Liebmann, no. 405 (hb. Gr.). — Distinguished from the preceding species by its thinner larger leaves, the spreading villous pubescence of the inflorescence, and by the shorter pappus.

= = = Leaves smoothish, finely reticulate-veiny beneath.

15. *T. frutescens*, P. Br. Shrub, much branched, 1 to 1.5 m. high; branchlets glabrous or sparingly appressed-pubescent: leaves narrowly lanceolate to lance-ovate, 3 to 10 cm. long, 1 to 3.5 cm. broad, more or less acuminate and mucronate, subentire to distinctly dentate, sessile or narrowed into a subpetiolate base, glabrous or nearly so on both surfaces: inflorescence a many-headed somewhat leafy corymbose panicle; heads 1.5 to 2 cm. high, usually about 12-flowered; inner involucreal scales 8 (or rarely 10) in number, 10 to 12 mm. long, the outer linear or lance-linear, usually half to two-thirds as long as the inner, rarely quite as long. — P. Br. acc. to Spreng. Syst. iii. 501 (1826); DC. Prodr. vii. pt. 1, 68; Hemsl. l. c. 258; Less. Linnaea, v. 33; Benth. Pl. Hartw. 88; Klatt, Bull. Soc. Bot. Belg. xxxv. pt. 1, 293. *T. radiale*, Lag. acc. Hook. f. & Jacks. Ind. Kew. ii. 1131, but Lagasca seems never to have employed the combination, although he referred the Linnaean species to *Trixis*, as had P. Browne many years before (Hist. Jam. 312). *T. laevigata*, Lag. acc. to Spreng. Syst. iii. 501 (1826). *T. divaricata*, Klatt, Bull. Soc. Bot. Belg. xxxi. pt. 1, 215 (1892) not Spreng. *Perdicium radiale*, L. Sp. ed. 2, 1248 (1763); Lag. Amen. Nat. i. 36; Lam. Ill. t. 677, f. 2. *P. laevigatum*, Berg. Act. Holm. 228, t. 7 (1772); Lam. Dict. v. 179, & Ill. t. 677, f. 1. *Inula Trixis*, L. Amoen. Acad. v. 406 (1760). *Tenorea Berteri*, Colla, Hort. Ripul. 137 (1824). *T. calyculata*, Bert. acc. to Colla, l. c. *Prenanthes fruticosa*, Willd. acc. to Less. Linnaea, v. 33 (1830) & DC. Prodr. vii. pt. 1, 69. — TAMAU-LIPAS: near Matamoras, *Berlandier*, nos. 690, 2100 (both in hb. Gr.), and near Victoria, *Berlandier*, nos. 810, 2230 (both in hb. Gr.); near Jimenez, *Nelson*, no. 6660 (hb. Gr., hb. U. S. Nat. Mus.). The last five numbers represent a form with the outer accessory involucreal bracts equaling the inner proper involucre. SAN LUIS POTOSI: alt. 1850 to 2500 m., *Parry & Palmer*, no. 550 (hb. Gr.); limestone hills, Las Palmas, alt. 120 to 160 m., *Pringle*, nos. 5766, 8005 (both in hb. Gr.). TEPIC: Santiago and Tepic, *Lamb*, no. 552. VERA CRUZ: Valley of Cordova, *Bourgeau*, no. 2035 (hb. Gr.); Mirador, *Sartorius* (hb. Gr.); near the city of Vera Cruz, *Pringle*, no. 5771 (hb. Gr.), *Linden*, no. 1208 (hb. Gr.). OAXACA: between San Carlos and San Bartolo, alt. 1000 to 1500 m., *Nelson*, no. 2567 (hb. Gr.); on wooded slopes of the Tehuantepec below Toloan, growing under trees, *C. & E. Seler*, no. 1702 (hb. Gr.). CHIAPAS: between Tonala and Tuxtla in mountain woods near Cuesta San Fernando, *C. & E. Seler*, no. 1932 (hb. Gr.):

Barranca de Consoquitla, *Liebmann*, no. 108 (hb. Gr.). GUATEMALA: Valley of Guatemala, *Hartweg* (hb. Gr.); alt. 1550 m., *J. D. Smith*, no. 2363 (hb. Gr.); Volcan de Fuego, alt. 1550 m., *J. D. Smith*, no. 2856 (hb. Gr.); Canizal alt. 1550 m., *Heyde & Lux*, no. 4202 of *J. D. Smith's* distrib. (hb. Gr.). YUCATAN: Merida, *Valdez*, no. 10; without locality, *Gaumer*, no. 397. HONDURAS: San Pedro Sula, alt. 250 m., *Thieme*, no. 5236 of *J. D. Smith's* distrib. (hb. Gr.); Gulf of Fonseca, *Sinclair* (hb. Gr.). COSTA RICA: Cartago, *Cooper*, no. 5810 of *J. D. Smith's* distrib.; in woods near Terraba, alt. 260 m., *Pittier*, no. 3705 (hb. Gr.). PANAMA: Veraguas, *Seemann* (hb. Gr.).

16. *T. Wrightii*, n. sp. A much-branched shrub; branchlets subappressed-pubescent: leaves lanceolate, 1.5 to 7 cm. long, 0.5 to 2 cm. broad, entire or inconspicuously denticulate, narrowed below into a sessile or subsessile base, more or less decurrent on the stem, thickish, appressed-puberulent on both surfaces to essentially glabrous, reticulate-veiny beneath: heads about 1.5 cm. high, loosely disposed in corymbose panicles, 11-13-flowered; bracts of the outer involucre spatulate to obovate, 5 to 10 mm. long, 2 to 6 mm. broad; inner involucre of 8 appressed-pubescent scales 10 to 11 mm. in length. — SINALOA: near Mazatlan, January, 1889, *W. G. Wright*, no. 1224 (hb. Gr.), December, 1894, *Lamb*, no. 248 (hb. Gr.). TRES MARIAS ISLANDS: Maria Madre Island, 3 to 25 May, 1897, *Nelson*, no. 4191 (hb. Gr.).

III. — REVISION OF THE MEXICAN AND CENTRAL AMERICAN SPECIES OF HIERACIUM.

B. L. ROBINSON AND J. M. GREENMAN.

THROUGH a lack of accurate knowledge of the Mexican Hawkweeds there has been for many years a tendency to crowd unlike forms into certain of the older and vaguely characterized species. Some years ago the writers made a preliminary revision of the Mexican and Central American species of this genus, but from the uncertainty which still obscured the exact application of some of the earlier specific names, it seemed best to withhold the paper from publication pending further investigation. Of late, however, it has been possible to gain considerable new light on the subject, first from numerous specimens, tracings, drawings, and authentic fragments obtained by the Gray Herbarium through the purchase of the collection of the late Dr. F. W. Klatt, and second